REMARKS

Objection to claims

Claim 26 has been objected to because it depends from itself, instead of from claim 25. Applicant has amended claim 26 so that it correctly depends from claim 25, and requests that the objection be withdrawn.

Interpretation of claims generally

In reviewing the Office Action, Applicant believes that the Examiner has made a fundamental misinterpretation of the claims. Each of the independent claims 1, 12, 19, 23, 25, and 27, either as originally presented or has been amended, is limited to each MEM device assembly "having a MEM device capable of being individually written to but incapable of being electrically read."

In reading the Office Action, Applicant believes that it is clear that the Examiner has misconstrued or ignored this limitation of the claimed invention. For instance, in relation to the claim rejection under 35 USC 102 as to Ziv (4,918,390), the Examiner states that Ziv discloses "micro-electrical (MEM) device assemblies . . . capable of [being] individually written to . . . and testing device . . . for testing device assembly for proper operation . . . *without directly reading the MEM devices . . . of the MEM device assemblies . . . .*" (Office Action, p. 2, para. 3) Similarly, in relation to the claim rejections under 35 USC 102 as to Staples (6,750,655), the Examiner states that Staple discloses "micro-electrical (MEM) device assemblies . . . capable of [being] individually written to . . . and testing device . . . for testing device assembly for proper operation . . . *without directly reading the MEM device of the MEM device assemblies . . . .*" (Office Action, p. 3, para. 4)

That is, the Examiner is interpreting the claimed invention as reciting testing a MEM device of a MEM device assembly without directly reading the MEM device. However, this is just part of what the claimed invention recites. The claimed invention is also limited to a MEM

device that is *incapable of being electrically read.* The testing of the MEM device is not involved in this particular limitation at all. That is, as a first instance, the claimed invention is limited to MEM devices that are incapable of being electrically read. It is this limitation that must be found in the prior art, in addition to "the testing [of] a MEM device of a MEM device assembly without directly reading the MEM device," as the Examiner has interpreted the claimed invention.

The relevant definition of the word "incapable" as, for instance, is defined in the online dictionary www.dictionary.com, is "lacking the necessary ability, capacity, or power: incapable of carrying a tune; incapable of love." Thus, the types of MEM devices to which the claimed invention is limited are those that lack the necessary ability, capacity, or power to be electrically read. For the prior art to disclose the claimed invention, it must also disclose these types of MEM devices. That is, the prior art must disclose MEM devices that lack the necessary ability, capacity, or power, to be electrically read. The prior art cannot simply disclose that the MEM devices of the MEM device assembly are tested without directly reading them, as the Examiner has interpreted the claimed invention, but also must disclose MEM devices that are incapable of being electrically read.

Applicant asks that the Examiner keep this proper interpretation of the claimed invention in mind when reading the remainder of this office action response.

Claim rejections under 35 USC 102 as to Ziv

Claims 1, 2, 19, and 20 have been rejected under 35 USC 102(b) as being anticipated by Ziv. Claims 1 and 19 are independent claims, from which claims 2 and 20 ultimately depend. Applicant submits that claims 1 and 19 are not anticipated by Ziv, such that claims 2 and 20 are patentable for at least the same reasons. As has been described above, both claims 1 and 19 are limited to each MEM device assembly "having a MEM device capable of being individually written to but incapable of being electrically read."

Applicant provides two separate reasons why Ziv does not anticipate the claimed invention. First, Ziv does not disclose, teach, or suggest a MEM device that is "incapable of being electrically read." Second, Ziv simply does not disclose a "MEM device" at all. Each of these reasons is now discussed in detail.

Ziv does not disclose a MEM device that is "incapable of being electrically read"

First, Ziv does not disclose a MEM device that is "capable of being electrically read," as to which the claimed invention is limited. Ziv discloses electrical devices as follows.

> [T]he electrical devices being monitored are a plurality of sensors each including a switching device which is actuated in response to a sensed condition. For example, the system monitored could be a home-protection system for protecting against intrusion, fire and smoke, the system including a plurality of sensors for detecting these various conditions. *Each sensor includes an electrical switch which is actuated when the respective condition is sensed.*

(Col. 2, ll. 34-43) (Emphasis added) Thus, the devices of Ziv most definitely are capable of being electrically read. When a given event for which a home-protection system has been put in place occurs, the *electrical* switch of the corresponding device is actuated. The entire point of having a home-protection system, such as a security system, for instance, is that upon the detection of various events – like intrusion, fire, and smoke – the system is able to act, by sounding an alarm, calling 911, and so on. Therefore, the *electrical* switch of the device that senses a given event by definition *has* to be read, in contradistinction to the claimed invention. That is, the *electrical* switch may be closed, such that this state of the switch is inherently read to perform a corresponding action in response to the event occurring.

Indeed, Ziv notes that "[t]he invention is particularly applicable for monitoring the condition of *electrical switching devices*, such as those operated by sensors sensing a particular condition *and actuating a switch in response to the sensed condition.*" (Col. 1, ll. 61-65) (Emphasis added) As can be appreciated by those of ordinary skill within the art, the way that such switching devices work within home-protection systems, such as security systems, is as

follows. A sensor detects the breakage of the glass of a window. In response, the sensor closes an electrical switch. In response to the closure of the electrical switch, the system sounds an alarm, calls 911, and/or performs another event. Thus, the security system inherently and implicitly *electrically reads the electrical switch that has been closed* in Ziv. The entire point of having an electrical switch that is closed in a security system is that so it can be read, or sensed, in order for a corresponding action to be undertaken.

However, regardless how the electrical devices in Ziv are used in Ziv, Ziv cannot anticipate the claimed invention. The claimed invention is limited to a MEM device that is "*incapable of* being electrically read." That is, as has been discussed above, the claimed invention's MEM devices lack the necessary ability, capacity, or power, to be electrically read. By comparison, Ziv's electrical devices contain *electrical switches* that inherently *have* the necessary ability, capacity, or power to be electrically read. These electrically switches of Ziv thus have the *capability* of being electrically read. Therefore, Ziv does not disclose this aspect of the claimed invention, and cannot anticipate the claimed invention.

Ziv does not disclose a "MEM device"

The claimed invention is limited to each micro-electromechanical (MEM) device assembly having a MEM device. The Examiner states that Ziv's "electrical switches . . . actuated by sensors are broadly interpreted as micro-electromechanical device[s] absent specific structure of the claimed MEM device." That is, the Examiner considers any type of electromechanical device, like Ziv's electrical switches actuated by sensors, to be MEM devices. Applicant asserts, however, that the Examiner is too broadly interpreting what a "micro-electromechanical (MEM) device" is.

Applicant has provided a Computer Desktop Encyclopedia reference in a co-filed Form 1449 that generally and non-restrictively defines what a MEM device is, as construed by those of ordinary skill within the art. This reference informs us that MEM devices, or MEMS, are "[t]iny

mechanical devices that are built onto semiconductor chips and are measured in micrometers." Thus, the claimed invention is limited to "tiny mechanical devices that are built onto semiconductor chips and [that] are measured in micrometers."

In this sense, Ziv's electrical switches are not MEM devices. Whereas they are electromechanical devices, Ziv's electrical switches are not *micro*-electromechanical devices. That is, Ziv's electrical switches are not "built onto semiconductor chips" and are not "measured in micrometers." Ziv's electrical switches are not described anywhere as being MEM devices, even though the terminology "MEM device" is commonly understood and used by those of ordinary skill within the art. Ziv's electrical switches are in fact not described anywhere as being built on semiconductor chips, nor are they described anywhere as being measured in microns. Indeed, Ziv's electrical devices are used within "a home-protection system for protecting a home against intrusion and smoke, the system including a plurality of sensors for detecting these various conditions." (Col. 2, ll. 37-41) "Each sensor includes an electrical switch which is actuated when the respective condition is sensed." (Col. 2, ll. 41-43)

As can be appreciated by those of ordinary skill within the art, sensors for home-protection systems typically each measure a number of inches along each dimension, to be placed throughout the home. For example, there typically is a smoke or fire sensor on the ceiling near the entrance of each room. There typically is a glass-breakage sensor – i.e., an intrusion sensor – placed on each window of at least the lowest floor of the home. These sensors are not MEM devices arranged in an array, as in the claimed invention. Indeed, these sensors are not *micro* in dimension at all, and are measured in inches, not microns.

Quite simply, one of ordinary skill within the art would not interpret the terminology "micro-electromechanical (MEM) device" as encompassing individual sensors for a home-protection system, as the Examiner has done in relation to Ziv. "The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach." (MPEP sec. 2111, citing In re Cortright 165, F.3d 1353, 1359 (Fed. Cir.

1999)) The Examiner's interpretation of a MEM device as being so broad so as to encompass non-micro EM devices, like those of Ziv, is by comparison inconsistent with the interpretation of a MEM device that is afforded by those of ordinary skill within the art. A MEM device is a particular type of device according to those of ordinary skill within the art, as has been generally and non-restrictively defined above in relation to the Computer Desktop Encyclopedia reference. The "plain meaning" of a claim limitation thus "refers to the meaning given to the term by those of ordinary skill in the art." (MPEP sec. 2111)

Therefore, the Examiner cannot interpret the claim limitation "MEM device" "in a vacuum." (Slimfold Mfg. Co. v. Kinkead Indus., Inc., 810 F.2d 1113 (Fed. Cir. 1987)) However, that is what the Examiner has done. He has overly broadly interpreted a "MEM device" as including any type of EM device, such as encompassing the electrical devices of Ziv. However, a "MEM device," as this terminology is known to those of ordinary skill within the art, is a *micro* electromechanical device, where the intricacies EM device itself cannot typically be seen by the naked eye, since its dimensions are measured in microns. By comparison, the electrical devices of Ziv are *macro* electromechanical devices, having dimensions measured in inches, not microns. Therefore, Ziv's electrical devices cannot be properly construed to be MEM devices, as to which the claimed invention is limited. As a result, Ziv does not anticipate the claimed invention.

Claim rejections under 35 USC 102 as to Staple

Claims 1-10, 12-20, and 22 have been rejected under 35 USC 102(b) as being anticipated by Staple. Claims 1, 12, and 19 are independent claims, from which claims 2-10, 13-18, 20, and 22 ultimately depend. Applicant submits that claims 1, 12, and 19 are not anticipated by Staple, such that claims 2-10, 13-18, 20, and 22 are patentable for at least the same reasons. As has been described above, claims 1, 12, and 19 are limited to each MEM device assembly "having a MEM device capable of being individually written to but incapable of being electrically read."

By comparison, the MEM devices of Staple are taught in Staple as being *capable* of being electrically read, in contradistinction to the claimed invention. Staple broadly teaches the following:

> Embodiments of the invention are thus directed to a MEMS device and a method for operating the MEMS device to determine whether it is in a select state. The select state is defined by a position of a moveable element, which is moved with electrostatic forces upon activation of an electrode. The moveable element may be conductive or semiconductive in different embodiments. *The select state is detected with a sensing configuration that has first and second regions. The regions are generally separated such that they are electrically uncoupled unless the moveable element is in the position that defines the select state.* In some embodiments, a detector may be provided to indicate whether the first and second regions are so coupled electrically.

(Col. 2, ll. 19-33) Thus, in Staple, each MEMS device has a moveable element. When the moveable element is moved to a "select state," two previously electrically uncoupled regions become coupled electrically. In this way, whether a MEMS device has entered the select state can be detected, sensed, or *read* – in an electrical manner. That is, whether a MEMS device has entered the select state can be sensed by determining whether the two regions of the MEMS device are *electrically coupled*, which only occurs when the MEMS device is in the select state. Therefore, the MEMS devices of Staple are most definitely "capable of being electrically read" – by virtue of the two regions of a given MEMS device becoming electrically coupled, reading of the state of the MEMS device is possible in Staple.

Staple illustrates one embodiment in FIGs. 3A and 3B thereof that depicts this capability to electrically read the state of a MEMS device. In FIG. 3A, the moveable element 212 is in one state, such that the regions 254 and 258 are not electrically coupled. In FIG. 3B, the moveable element 312 is in the select state, such that the element 312 electrically couples the regions 254 and 258. Therefore, the MEMS device of Staple is capable of being electrically read – that is, the MEMS device of Staple has the necessary ability, capacity, or power to be electrically read. By simply monitoring whether current flows from the region 254 to the region 258, one can

electrically read whether or not the MEMS device of Staple has entered the select state. By comparison, the claimed invention is limited to MEM devices that are *incapable* of being electrically read, and thus *lack* the necessary ability, capacity, or power to be electrically read. Therefore, Staple cannot anticipate the claimed invention.

To provide further and background information as to the distinction between the claimed invention and Staple, Applicant notes that the testing of MEM devices in Staple differs from that achieved by at least some embodiments of the claimed invention. In the embodiment of the claimed invention described in relation to FIG. 2 of the patent application as filed, there is an array of MEM devices 124, which is coupled to a testing mechanism 202 that controls or reads the various control and output mechanisms 204, 206, 208, and 210 in order to test the MEM devices 124, even though the MEM devices 124 are incapable of being electrically read. That is, at least some embodiments of the invention are directed to a way to test MEM device arrays without having to modify the MEM devices of the arrays themselves. This is advantageous, because the approach taught by these embodiments of the claimed invention can be employed with any type of existing MEM device array that has MEM devices that are incapable of being electrically read.

By comparison, Staple approaches this problem of testing the MEM devices of an array from a different perspective. In particular, Staple directly modifies the MEM devices themselves, so that each includes the two regions that have been described and that become electrically coupled when the MEM device enters the select state. Staple thus does not have the advantages of at least some embodiments of the claimed invention, because it cannot be employed in relation to MEM device arrays that have MEM devices incapable of being electrically read. That is, Staple cannot be employed in relation to such preexisting MEM device arrays. Rather, Staple teaches the construction or fabrication of a new type of MEM device array, one in which the individual MEM devices each have two regions that become electrically coupled when the MEM device enters the select state.

In sum, you can consider Staple and at least some embodiments of the invention as providing two different answers to the question "how do you test a MEM device array." The answer afforded by Staple is that you modify the MEM devices themselves, so that the MEM devices are each capable of being electrically read. By comparison, the answer afforded by at least some embodiments of the invention is that you do *not* modify the MEM devices themselves, such that the MEM devices remain incapable of being electrically read. Rather, at least some embodiments of the invention provide for testing such MEM devices without having to directly read them. Applicant hopes that this additional background information regarding Staple and at least some embodiments of the claimed invention can server to allay any further misunderstanding as to the claimed invention vis-à-vis Staple.

Claim rejections under 35 USC 103

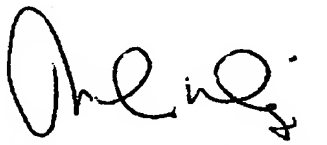
Claim 11 has been rejected under 35 USC 103(a) as being unpatentable over Staple in view of Montrose (2004/0257086). Claim 11 is a dependent claim depending from claim 1, however, and therefore is patentable for at least the same reasons that claim 1 is.

Claims 21 and 23-28 have been rejected under 35 USC 103(a) as being unpatentable over Staple in view of Martin (2004/0218334). Claim 21 is a dependent claim depending from claim 19, and therefore is patentable for at least the same reasons that claim 19 is. Claims 23, 25, and 27 are independent claims, from which claims 24, 26, and 28 ultimately depend. Claims 23, 25, and 27 have each been amended to include the limitation that their MEM devices are *incapable of being electrically read*, as has been described above. Insofar as Staple in particular does not teach such MEM devices, as has been discussed in detail above in relation to claims 1-10, 12-20, and 22, Staple in view of Martin further cannot render claims 21 and 23-28 unpatentable, for at least the same reasons.

Conclusion

Applicants have made a diligent effort to place the pending claims in condition for allowance, and request that they so be allowed. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Mike Dryja, Applicants' Attorney, at 425-427-5094, so that such issues may be resolved as expeditiously as possible. For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,



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